USAID | JORDAN
FROM THE AMERICAN PEOPLE

Biosolids Management Initiative

500,000 m^3 of biosolids have accumulated at the As-Samra WWTP.

Green energy opportunities include biosolids incineration for electricity

Stakeholder understanding is key to beneficial biosolids use in Jordan

Analysis of biosolids stored at As Samra confirm its suitability for land application in accordance with JS1145/2006

CHALLENGE

Biosolids management has fallen behind the expansion and upgrade of wastewater treatment plants in Jordan.

- A half million cubic meters of biosolids have accumulated at the As Samra WWTP
- Jordan's other 27 smaller WWTPs also lack outlets for sludge and biosolids
- Sludge from several plants is trucked to the overloaded Al Ekeder septage receiving facility
- Sludge from central plants is trucked to Ain Ghazal, which compounds overloading at the As Samra WWTP
- At other facilities, sludge is dried and temporally stockpiled on site

The challenges are to: identify safe, environmentally sound, cost-effective reuse and disposal options; help develop markets; and align any applicable regulations to allow activities to proceed.

PROJECT INITIATIVES TO ADDRESS CHALLENGES

The Water Reuse and Environmental Conservation Project is undertaking a new biosolids management initiative:

- As-Samra sludge management feasibility study
- Poultry and livestock waste management to address fly and odor Issues
- Technical and advisory support to the Ministries of Environment (MoEnv), Agriculture (MoA), and Water and Irrigation (MWI)
- Support of Kingdom-wide biosolids management activities

The project is investigating biosolids reuse opportunities:

- Incineration for green energy, to generate electricity or for cement production
- Land application as green fertilizer to increase fodder crop production or as soil amendment to restore rangelands
- Disposal in landfills

The project will work with the business community and the MoEnv, MoA, and MWI to create an enabling environment for the various reuse opportunities. The project proposes to host a set of workshops, one or more study tours, and a regional event placing Jordan's biosolids issues in a MENA context.

USAID | JORDAN
FROM THE AMERICAN PEOPLE

Land application as soil amendment can support rangeland vegetation

Farmers express willingness to apply biosolids as soil fertilizer

Forage farms near As Samra WWTP were identified for potential participation in pilot projects on biosolids use in agriculture

CONTACT:
Charles Darnell, Chief of Party
USAID Water Reuse and
Environmental Conservation Project

P.O. Box 140193
Tel: +962.6.592.3170
Fax: + 962.6.592.3171
info@wrecp-jo.com

Land Application Pilot/ Demonstration Projects

Three pilot/demonstration projects are planned to illustrate the technical viability, safety, and marketability of land application as soil amendment and organic fertilizer.

OBJECTIVE

Extensive international, regional and local research has been done on the use of treated/stabilized sludge in land application, demonstrating its safe use. This project intends to use land application pilots/demonstrations to engage both communities and businesses in the safe practice of biosolids use, thereby helping to develop a market for its use.

In parallel, the project proposes to host a set of workshops, one or more study tours, and a regional event placing Jordan's biosolids issues in a MENA regional context, in order to:

- Increase awareness of international and regional reuse practices
- Foster a regulatory environment that permits biosolids reuse opportunities

ACTIVITIES

The following pilots are proposed to be implemented directly through the WRECP project, managed in a controlled environment, with thorough oversight and in coordination with MoA staff.

Hima Bani Hashem Rangelands: Improve soils, accelerate vegetation restoration, and prevent further deterioration in rangelands, building on an existing IUCN grazing management program.

UNCC-Funded Badia Restoration Program: Incorporate biosolids into physical interventions in the ongoing Badia restoration program, to better optimize grazing resources and thus reduce the need for subsidized forage crops.

Forage Farms near As Samra: Improve forage production quantity and quality, and reduce the use of chemical fertilizers, thereby reducing farming costs and environmental risks.